



Cannabis plants grow at a CBD oil hemp marijuana farm in Colorado.

PHOTOGRAPH BY JEREMY POLAND, GETTY IMAGES

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5 surprising ways hemp helps the planet

Long used to treat maladies from anxiety to inflammation, hemp is now being used to build cars, brew beer, and innovate other sustainable solutions.

BY NATIONAL GEOGRAPHIC STAFF



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Hemp already has a good reputation for use in medicine. As a member of the same species as the marijuana plant, *Cannabis sativa*, hemp contains cannabidiol—a compound more commonly known as CBD. By activating certain receptors in the brain that help regulate the nervous system, CBD is often used to treat anxiety, insomnia, and inflammation. Studies also suggest it can help with epilepsy, chronic pain, and addiction. (*Subscriber exclusive: Science seeks to unlock marijuana's secrets.*)

In recent years, however, the plant's uses have expanded beyond the medical realm. Hemp is now being used to build race cars, brew more sustainable beer, and add a protein boost to any meal. Here's a look at five surprising new uses for hemp.

1. Microbe killer

CBD kills certain types of bacteria very efficiently, as Australian researchers have discovered. This means that the active ingredient in hemp has advanced to become a candidate for a new type of antibiotic. It is

already being used for asthma and pain.



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2. Pit stop visitor

Hemp fiber is stable, elastic, lightweight, and biodegradable, making it an excellent replacement for plastic. Batteries add hundreds of pounds to electric vehicles, reducing efficiency, so EV manufacturers are increasingly using hemp as a composite ingredient in car interiors and bodies. In 2019, Porsche even built race car body parts from the fibers. The oil recovered from harvested hemp plants can also be used to make diesel fuel.

3. Wonder textile

Hemp plants are armed against climate change. They are six times more efficient than cotton when it comes to water usage, as researchers from the Leibniz Institute of Agricultural Engineering and Bioeconomy have

discovered. In addition, three times more hemp than cotton can be grown in the same area, and their carbon dioxide emissions are similar, when the entire production process is considered.

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4. Thirst quencher

Swiss researchers have created a beer that replaces three-quarters of the hops, normally used for brewing beer, with hemp flowers, creating a lager indistinguishable from one made with 100 percent hops. This is much more sustainable, they say; in Switzerland, the flowers of the hemp plant are considered a waste product in the industrial production process. Hemp is a hardy plant that needs few pesticides and little fertilizer to thrive, and doesn't seem to care about the heat and erratic weather conditions climate change is generating worldwide. There are no taste disadvantages to making beer from hemp, a blind taste test showed.

5. Protein bomb

Hemp seeds are rich in protein—about the same amount as beef—as well as high-quality amino acids, fiber, and omega-3 fatty acids, making them a valuable protein alternative for vegans. Scientists are developing pasta, tofu, and various meat substitutes from hemp.

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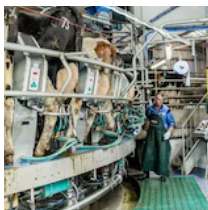
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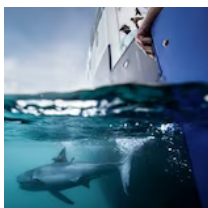
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